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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,426	07/26/2001	Martin Kessler	1703	6991

7590 08/14/2002
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EXAMINER

DUDA, RINA I

ART UNIT PAPER NUMBER

2837

DATE MAILED: 08/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/915,426

Applicant(s)

KESSLER ET AL.

Examiner

Rina I Duda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-6 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☒ Interview Summary (PTO-413) Paper No(s). 4.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 7/26/2000. It is noted, however, that applicant has not filed a certified copy of said application as required by 35 U.S.C. 119(b).

Drawings

2. Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "OR-circuit" for comparing a corresponding voltage of a phase to be controlled with a voltage in a reference branch must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "QR".

5. The drawings are objected to under 37 CFR 1.83(b) because they are incomplete. The drawings do not show where the bases of transistors 17, Q5, and QR and the gates of switching elements 19 are going to be connected.

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6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because different reference characters have been used to designate the same circuit element, for example L1 and "2" designate one of the inductivities; R1 and "4" designate the same resistor; M1 and "19" designate the same transistor. All four drawings contain similar problems. Correction is required.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

7. The specification is objected to because of the following informalities: On page 15, line 20, element "15" is used to describe a comparator, but the drawings and other portions of the specification use element 15 to describe the positive and negative reference voltages; the term "comparitor" has been misspelled; it should be "comparator"; page 11 lines 4-5 read – In figure 1 one phase to be evaluated is illustrated--, the examiner believes that it supposed to say – In figure 2 one phase to be evaluated is illustrated—because figure 1 illustrates all four phase branches; On page 10 line 14, reference character "14" is used to describe a capacitor component, the examiner believes applicant intended to write a "comparator component". Appropriate correction is required.

Claim Objections

8. Claim 4 is objected to because series pass transistors and field effect transistors are not types of resistor elements. The examiner believes that applicant intended to recite – wherein said transistor element --. Furthermore, the term “comparator” has been misspelled; it should be “comparator”. Also claim 3 should read – a non-selected phase branch—instead of – a not selected phase branch --. Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. The specification (detailed description of the invention) is objected under 35 U.S.C. 112, first paragraph, as containing subject matter, which was not described in a clear manner. Page 6 lines 11-17 and page 14 lines 10-14 do not make any sense.

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

12. Claims 3 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Lines 3-4 of claim 3 are not clear; does the not selected phase branch include more than one sub-branch?

Claim Rejections - 35 USC § 102

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13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Schwarz (US Patent 4978895).

Claim 1, Schwarz teaches an apparatus/method for determining the position of a sensorless direct current motor comprising a direct current motor 20 including a plurality of inductivities L1, L2, and L3 arranged in corresponding phases 21, 22, and 23, said inductivities induce alternating voltages V1, V2, and V3 in the motor windings, as shown in figure 3 (first three graphs); and a rotor position detecting circuit 30 which includes a plurality of resistances 51, 52, 54, 55, 57, and 58 and a plurality of comparator components 59, 60, and 61, wherein the resistances and the comparators are located in phase branches as shown in figure 5 and described in column 3 lines 16-58.

Claim 6, Schwarz describes the output of the comparators 59, 60, and 61 connected to a common output element 70.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwarz (US Patent 4978895) and applicant's admission of prior art (figure 3).

Claims 3 and 4 have been rejected under USC 112, second paragraph for being unclear. The examiner has interpreted the subject matter of claim 3 as follows: During the evaluation of the position of the motor, one of the phase branches is not energized, wherein said branch includes a transistor.

Claim 3, Schwarz as described above, teaches a method/apparatus for determining the position of a sensorless direct current motor comprising a motor, which includes inductivities L1-L3 that induce alternating voltages in the motor windings; a plurality of resistances 51, 52, 54, 55, 57, and 58; and a pluralities of comparators 59, 60, and 61, wherein the resistances and the comparators are located in the phase branches. But, Schwarz fails to disclose that one of the phase branches is not energized and that said un-energized phase branch includes a transistor connected to a reference potential.

However, figure 3 (applicant's admission of prior art) illustrates a device for position determination comprising a plurality of phase branches, wherein each of the phase branches (selected or non-selected) includes a transistor 17 connected to a reference voltage (indicated by the arrow pointing down) for selecting the phase branch to be evaluated. Therefore, it would have been obvious to one of ordinary skill in the art to connect a transistor to the phase branches, since the transistor will provide a less expensive alternative for selecting the un-energized (or not selected phase branch)

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phase branch that is going to be used to evaluate the position of the motor, as described on pages 3-5, page 12 lines 10-19, and page 3 lines 1-4.

Claim 4, applicant describes in different portions of the specification (pages 3-5, page 12 lines 10-19, page 13 lines 1-4, and figure 3) that the prior art uses either a pass series transistor or a field effect transistor connected to each of the phase branches (selected or non-selected).

Claim 5, Schwarz as described above, teaches a method/apparatus for determining the position of a sensorless direct current motor comprising a motor, which includes inductivities L1-L3 that induce alternating voltages in the motor windings; a plurality of resistances 51, 52, 54, 55, 57, and 58; and a pluralities of comparators 59, 60, and 61, wherein the resistances and the comparators are located in the phase branches. But, Schwarz fails to describe a transistor and a resistor connected to each of the phase branches.

However, figure 3 (applicant's admission of prior art) describes a device for position determination comprising a plurality of phase branches, wherein each of the phase branches includes a transistor 17 and resistor R2 for selecting the un-energized phase branch and regulating the induced voltage respectively. Therefore, it would have been obvious to one of ordinary skill in the art to connect a transistor to each of the phase branches, since the transistor will provide a less expensive alternative for selecting the un-energized (or not selected phase branch) phase branch that is going to be used to evaluate the position of the motor; and connect a resistor to the phase branches, since the resistor will help match the corresponding induced voltage of the

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selected phase to the input of comparator, as described on pages 3-5, page 12 lines 10-19, and page 13 lines 1-4.

Allowable Subject Matter

17. Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

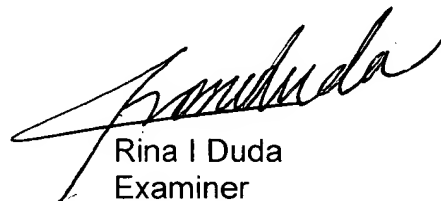
18. The following is a statement of reasons for the indication of allowable subject matter: The prior art made of record does not teach an OR-circuit for comparing the corresponding voltage of the phase to be controlled with a voltage in a reference branch, as claimed in claim 2.

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19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rina I Duda whose telephone number is 703-305-0722.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached at 703-308-3370. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Rina I Duda
Examiner
Art Unit 2837

RD
August 11, 2002